

CLAIMS

1. A fluid control device comprising a valve case having a fluid channel, a valve element holder upwardly or downwardly movable for holding a valve element for opening or closing the fluid channel, a lower casing provided on an upper portion of the valve case, an upper casing joined to the lower casing, a valve stem disposed in a space defined by the upper and lower casings and having a lower end in bearing contact with the valve element holder and a piston secured to the valve stem, an upper space being formed between and defined by an upper surface of the piston and a lower surface of a top wall of the upper casing, a lower space being formed between and defined by a lower surface of the piston and an upper surface of a bottom wall of the lower casing, the fluid control device being characterized in that a compression coil spring is provided in one of the upper space and the lower space for biasing the piston, a compressed air admitting passageway being in communication with the other of the upper and lower spaces.

2. A fluid control device according to claim 1 wherein the valve stem and the piston are integral.

3. A fluid control device according to claim 1 or 2 wherein a spring bearing annular recessed portion is formed in each of the top wall lower surface of the upper casing and the bottom wall upper surface of the lower casing.

25 4. A fluid control device according to claim 3 wherein the top wall of the upper casing is provided with an internally threaded portion having an upward opening for connecting a compressed air admitting pipe and a compressed air admitting downward passage opened to the upper space and extending from

a lower end of the internally threaded portion.

5. A fluid control device according to claim 4 which is of the normally open type and wherein the compression coil spring is retained by the lower surface of the piston and the 5 annular recessed portion in the lower casing upper surface.

6. A fluid control device according to claim 4 which is of the normally closed type and wherein a spring bearing annular recessed portion is formed in the upper surface of the piston, and the compression coil spring is retained by the annular 10 recessed portion of the piston and the annular recessed portion in the upper casing lower surface, the piston having an upper small-diameter portion fitted in the downward passage of the upper casing, the piston being provided with a compressed air passageway communicating at an upper end thereof with the 15 downward passage in the top wall of the upper casing and at a lower end thereof with the lower space.